

MISSILES, ARTILLERY, PVO

Reconnaissance of the Enemy Atomic Means

by

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Before launching an offensive, the main task of the troops lies in the dependable neutralization or destruction of enemy atomic means, first and foremost his atomic artillery, his launchers (ustanovka) for guided missiles and free rockets (upravlyaemyy i neupravlyaemyy snaryad) and cruise missiles (samolet-snaryad), his atomic ammunition (atomnyye boyepripasy) at the places where it is stored, at depots, during transport, at the places where they are assembled, the missile guidance systems (sistema navedeniya snaryadov), his technical subunits (podrazdelenie), etc.

At the present time, in the U.S. Army the principal means for delivering nuclear charges to targets are missiles (snaryad) and cruise missiles (samolet-snaryad) of the "surface-to-surface" type of various designations. It is with these weapons that infantry and tank large units are being armed and army corps, field armies, and army groups are being strengthened. Thus, a U.S. field army may have the following: 30 to 40 batteries of atomic artillery (203.2 mm howitzers, 280 mm guns); up to 18 free rocket (NURS -neupravlyayemyy reaktivnyy snaryad) batteries of the "Honest John" type; 4 or 5 guided missile (URS - upravlyayemyy raketnyy snaryad) battalions of the "Corporal" and "Sergeant" type; 2 to 4 "Redstone" guided missile batteries; and 3 "Matador" cruise missile detachments (otryad). In addition, in the army zone (polosa) there may be up to 6 depots (sklad) with ammunition (boyepripasy) and cruise missiles with

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conventional and atomic warheads (atomnoye snaryazheniye). Thus, when preparations are being made to launch a front offensive operation, reconnaissance will have to detect the location of up to 60 to 70 objectives of enemy atomic means of the "surface-to-surface" type in support of operational-tactical (operativno-takticheskaya) and tactical (takticheskaya) missiles, aviation, and artillery.

In the performance of this task the role of artillery reconnaissance, which must determine the coordinates of targets accurately and in good time, has increased greatly.

In this connection let us state some considerations concerning reconnaissance of enemy atomic means on the basis of experience gained at command staff and tactical exercises.

It is known that the instruments with which artillery reconnaissance is equipped (sound, optical) can determine the coordinates of targets only at the main line of resistance and of enemy batteries firing from the immediate tactical depth of up to 8 to $\overline{10}$ km. Consequently, sound and optical reconnaissance cannot be regarded to any extent as a major means for determining the coordinates of atomic batteries and of guided missiles and free rocket launchers (ustanovka) which may possibly be located at the limits of the maximum range of these weapons. At best, subunits equipped with sound-ranging and optical instruments will be able to fix the location of launchers or guns at the moment of firing or launching. But the coordinates so received cannot serve as a basis on which we can strike back, for, in the first place, they are not accurate, and secondly, the target will change its location immediately after firing and our strike will be against a vacant area.

For many reasons, the radiotechnical stations of ground artillery are also unable to fulfil such tasks.

At the present time, only spotter-reconnaissance aviation (korrektirovochno-razvedyvatelnaya aviatsiya) is capable of fulfilling the task of reconnoitering enemy atomic weapons to any extent. However, the IL-28 and IL-28-R aircraft, and the MI-lkr helicopters available for this purpose cannot satisfy us. In reality the depth of reconnaissance has greatly increased, the artillery staffs require the coordinates of targets at a depth of up to 350 kms or more. The aircraft referred to above are unable to carry out reconnaissance or final reconnaissance (dorazvedka) at such a depth. Moreover, the crew of an aircraft, provided with small-scale maps, cannot determine the location of a target accurately by visual observation; the best they can do is to give only the approximate area in which it is located. The results of aerial photography also often lose their value owing to the length of time it takes to process them. Aircraft and helicopters are not equipped for carrying out reconnaissance at night, whereas in modern battle conditions most of the changes in locations, especially of subunits and units of atomic means, are made at night.

As is known, MI-lkr helicopters carry out reconnaissance from the area in which their troops are disposed to an insignificant depth. Observation from a helicopter by means of existing optical instruments is very difficult. Consequently, from a helicopter it is impossible to reconnoiter not only atomic means, but even batteries of conventional field artillery.

The need arises to have spotter-reconnaissance aviation capable of carrying out not only the tasks of final reconnaissance of targets, but also to reconnoiter them, fulfilling both the tactical and the operational reconnaissance tasks. In our opinion, the operation of spotter-reconnaissance aviation should be subordinated to the interests of missile troops, in order to ensure, in the best possible way, the fulfilment of the task of combatting enemy atomic means. For this it is essential that aircraft (including pilotless ones) be equipped with

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the latest instruments, enabling enemy targets to be seen and photographed from great heights and at great speeds, and also be able to carry out reconnaissance to a greater depth than at present, so that their equipment would permit the crew to determine the coordinates of targets rapidly and accurately, under any conditions, and to report them immediately to the interested headquarters. These requirements also apply to helicopters.

We suggest that the time has come to reorganize the whole organizational structure of spotter-reconnaissance aviation. Like other means of technical reconnaissance, it must be included organizationally in the composition of motorized-rifle and tank large units (soyedineniye) and of field armies. This is called for by the appearance of subunits and units of tactical and operational-tactical missiles and by the need to provide them with accurate reconnaissance data in good time.

The headquarters of an artillery division should have at its command a flight (zveno) of helicopters or aircraft, the artillery headquarters of an army - a spotter-reconnaissance squadron, and the headquarters of artillery of a front - one or two separate spotter-reconnaissance aviation regiments (OKRAP - otdelnyy korrektirovochno-razvedyvatelnyy aviatsionnyy polk).

Despite all its technical perfections, artillery reconnaissance cannot, of course, fulfil the full range of tasks of reconnoitering enemy atomic means. Only by close cooperation between all forms of reconnaissance can the grouping (gruppirovka) of these means be fully disclosed. The intelligence elements (razvedyvatelnyy organ) of all arms and types of troops are also obliged to undertake reconnaissance in the interests of the missile troops, and must consider this to be one of their main missions.

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It is thought than an effective way of reconnoitering enemy atomic means would be to send special groups to various depths into the enemy rear area. If the personnel of such units are thoroughly trained, and this must be organized now, in peacetime, if they have good equipment, and if their operating areas are correctly chosen (taking into account the probable disposition of atomic means), if control of the units is centralized and they have uninterrupted communications, they can obtain very valuable information.

The main mission of groups sent into the enemy rear area should be reconnaissance of atomic means for the benefit of artillery and missile troops. Success in this depends to a great extent on efficient cooperation between all the various forms of reconnaissance. They must be directed toward final reconnaissance and reconnaissance of those targets about which information has been received from other sources. In this connection, a greater role should be played by the combined-arms intelligence elements in obtaining information on targets which will be fixed on by tactical and operational-tactical missiles.

We consider that it will be incorrect to concentrate the efforts of many forms of reconnaissance only on the detection of atomic artillery batteries and of the launchers of guided missiles and free rockets.

It is known that the launchers and guns of atomic artillery remain in their firing and launching positions for a minimum time, as a rule, the time required to carry out only one launching or firing. For instance, launchers of the "Honest John" type remain in position for only 15 to 20 minutes, "Corporal" - for 2 to $2\frac{1}{2}$ hours, and launchers of "Redstone" ballistic missiles - up to 4 hours.

Experience shows that the amount of time that elapses from the moment that the target is detected in a firing position until it is hit by a missile is such that enemy launchers and guns can change their position. Consequently,

when launchers of any designation are detected in positions, it is essential to watch them continuously until the moment of their destruction. This requires a concentration of numerous reconnaissance means, all the more so because atomic subunits move, as a rule, at night.

On the other hand, the destruction of one or two launchers, for instance, in "Honest John" battalions of free rockets or "Corporal" guided missiles, or one or two batteries of 203.2 mm howitzers or 280 mm guns, does not mean that the enemy will no longer be able to continue his atomic strikes. In order to exclude the possibility of mass atomic strikes by the enemy, it is necessary first of all to destroy his atomic ammunition in the places where it is stored, assembled, at depots, during transport, etc. The targets against which strikes should be carried out should include radar stations, missile guidance systems, plants (installations) for producing fuel, storage depots, and technical subunits. It will be much more difficult for the enemy to restore such targets than to replace destroyed launchers and guns. For this reason the main efforts of reconnaissance should be directed toward the discovery of such targets.

The most important facet in organizing reconnaissance is its thorough and careful planning. At the artillery headquarters of a front and of an army, it is important to draw up a detailed plan for the reconnoitering of enemy atomic means which should constitute a basic part of the general plan of artillery reconnaissance.

However, the measures taken by the artillery headquarters to reconnoiter atomic means make up only part of the measures which must be provided for in the reconnaissance plan of a combined-arms intelligence element. The essence of these measures lies in the coordination of the efforts of all reconnaissance forms and means of a front (army) in regard to place and time. The organization of cooperation in this matter should, of course, be placed on the shoulders of the intelligence

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directorate of a front and the intelligence department (otdel) of an army with instructions to the effect that in drawing up plans for reconnaissance cooperation they should give priority to the interests of the missile troops.

Experience gained during exercises shows that the reconnaissance plan of an artillery headquarters of a front (army) has in essence already become a plan for reconnoitering atomic means, as these questions constitute the main part of the plan.

The distribution of tasks and targets between artillery headquarters, of various sizes, has great significance in the planning of reconnaissance. Thus, it is expedient to concentrate the planning of reconnaissance of enemy tactical atomic means (atomic artillery, guided missiles and free rockets such as "Honest John", "Little John", "Lacrosse") in the army, because the main role in combatting these means is played by the army artillery, while in the case of means intended for operationaltactical purposes (guided missiles such as "Corporal", Sergeant", "Redstone", the cruise missile "Matador") the planning should be the responsibility of the front. The reconnaissance of enemy conventional field artillery must be planned mainly by the headquarters of division artillery. In this connection, the question arises of resolutely equipping the artillery of motorized-rifle and tank divisions, armies, and fronts with powerful means for carrying out reconnaissance.